STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

Region VII
ID# 7186

Safety-Kleen Corporation

Grand Island, Nebraska
(Signature Date: August 19, 1994)

Facility/Unit Type:	**Service Center Collection Facility**
Contaminants:	**1,2 Dichlorobenzene (1,2-DCB), 1,4 Dichlorobenzene (1,4-DCB), Ethylbenzene (EB), Tetrachloroethene (PCE), Mineral Spirits (MS), Toluene, Xylenes**
Media:	**Air, Soil, and Groundwater**
Remedy:	**Remediate the contaminated soil by monitored natural attenuation and implement a system of groundwater monitoring wells to detect the spread of contaminants from soil to groundwater**

FACILITY DESCRIPTION

The Safety-Kleen Corporation (SK) facility is located on Elk Drive, Grand Island, Nebraska. It is located in an agricultural and industrial area bordered on the north by a truck rental firm, on the south by a trucking and transportation company, on the west by agricultural land, and on the east by a trucking company. The facility's location contains both paved and unpaved areas. There are no permanent surface water bodies in the immediate area of the facility. Groundwater within the vicinity of the facility is used as a source of water to private wells.

The facility is located in the floodplain, between the north and south channels of the Platte River. The topography is virtually flat and the facility is underlain by alluvial sediments consisting of silt, sand, and gravels.

The bedrock underlying the alluvial material is composed of Tertiary Age siltstones and sandstones of the Ogallala Group. The bedrock is thought to be over 100 feet below grade. Groundwater in the alluvium is normally encountered about 10 feet below the ground surface. The groundwater flows northeast at a velocity of about 2.5 feet per day.

SK operated the facility as a branch service center from 1979 to 1992 until it closed and moved to a new location. SK leased the facility from Delbert Trickle. Prior use of the facility is unknown, but it is assumed to be agricultural. The SK facility was a collection center for three types of wastes: parts cleaners and immersion cleaners; dry cleaner filters and solvents; and paint solvents.

Used mineral spirits made up the majority of the waste handled at the facility and were stored in a 12,000-gallon

underground storage tank (UST). There was one additional 12,000-gallon UST for mineral spirit product and one additional 1,200-gallon tank used to store mineral spirit sludge. These tanks were decontaminated and removed by August 1993. Other areas of the service center were also decontaminated including the drum storage area, the return and fill station, and the flammable materials storage units.

On August 19, 1994, the U. S. Environmental Protection Agency (EPA) and SK signed a consent order under section 3008(h) of the Resource Conservation and Recovery Act (RCRA). The consent order outlined the activities that SK needed to take to define the nature and extent of contamination within and beyond the facility boundary and to identify potential exposure risks to human health and the environment.

SK's first step was to submit a workplan for determining the extent of soil and groundwater contamination. EPA approved the workplan on August 3, 1995, and as work progressed, several modifications were made to improve sampling techniques.

The investigation included a review of information gathered during previous closure activities. During the 1990 closure activities, 16 soil samples were submitted for analysis for the presence of total petroleum hydrocarbons (TPH), an indication of mineral spirits contamination; volatile organic compounds (VOCs); cadmium; chromium; and lead. Based on the results of these analyses, contaminants of concern were identified.

As a component of the closure activities in the source area in 1990, soil gas analysis was performed. The soil was left in place, untreated. When the analysis was repeated in 1995, the levels of contamination had decreased, indicating that some form of natural attenuation was taking place. Most likely volatilization and dilution of the contaminants was occurring in the unsaturated zone.

Second, SK submitted a RCRA Facility Investigation (RFI) report that summarized the investigative findings, which EPA approved on September 30, 1996. SK amended the RFI report on January 10, 1997, by adding a risk assessment. Third, a Corrective Measures Study workplan identified potential remedies and methods that would be applicable. EPA approved the Corrective Measures Study (CMS) report on April 17, 1997. It evaluated the potential remedies for facility cleanup.

SK evaluated technologies for treating groundwater and soil under the consent agreement. To assure that contaminants did not migrate into groundwater, EPA required SK to install a monitoring well system. Low levels of mineral spirits (MS), 1,2-DCB, 1,4-DCB, and xylenes were detected from three monitoring wells at the facility in 1990.

EXPOSURE PATHWAYS

The potential exposure pathways for human health and the environment are primarily through soil and soil gas. Volatile organic compounds (VOCs) in soil gas could be released and contaminate outdoor and indoor air. Potential releases, ingestion, and dermal contact with subsurface soil could occur from digging during construction.

A risk assessment which assumed soil contaminants could potentially migrate to groundwater, revealed that groundwater could be a potential exposure pathway to the environment as well. The constituents of concern that had been detected in in two source area wells in 1990 and 1995 were MS, 1,2-DCB, 1,4,-DCB, and xylenes.

The risk assessment showed that there are no current risks from either soil or groundwater. Soil gas contaminant levels decreased from 1990 to 1995. Contamination was detected in two source area wells in 1990 and 1995. But, no trace of contamination has been detected in the groundwater for the last three years, since October 1995. The contaminants in the soil and groundwater are believed to have naturally attenuated.

SELECTED REMEDY

The proposed corrective action alternatives included soil vapor extraction (SVE), excavation, and monitored natural attenuation for removal of contaminants in the soil.

The SVE remedy involved the following:

- Installation of wells in the unsaturated soil above the groundwater table. The wells would be connected with piping to create a vacuum. The vacuum would pull contaminated vapors from the soil through carbon filters and then release the clean air into the atmosphere.

- The contaminated carbon filters would be reclaimed by a permitted recycler. This remedy would continue until levels of contaminants in the soil can no longer affect groundwater.

Excavation involved:

- Digging up contaminated soil and disposing of it at an approved facility. Soil sampling and analysis would be required to ensure the removal of all contamination. No additional groundwater monitoring would be required.

Monitored natural attenuation involved:

- Reducing contamination by natural biological and/or chemical degradation, dilution, adsorption, volatilization, and dispersion. Groundwater monitoring would be required to ensure no contaminant migration.

- If contamination from the facility migrates to the groundwater during the monitoring period, SK would be required to submit a revised risk assessment and CMS study for EPA approval.

EPA based its selection of the remedy to be used in cleaning up the facility by using a ratings matrix. Each alternative was evaluated for several factors including short-term effectiveness, long-term reliability, reduction of contaminants, and cost, to derive a numeric score. The alternative with the best overall score was chosen as the remedy. EPA evaluated the proposed corrective measure alternatives and selected monitored natural attenuation for remediation of the contaminated soil.

EPA will continue to monitor the natural attenuation of contaminants by reviewing laboratory analyses, progress reports, and conducting occasional inspections at the facility on a quarterly basis through 1999. Assuming that no groundwater contamination exceeding the MCLs is detected, the EPA will consider that facility soils no longer pose any risk to the environment and all monitoring wells will be removed. No further corrective action will be required.

The estimated cost for implementing this procedure is $45,000 including capital, operation, and maintenance of the necessary equipment.

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume (yd^3)	Contaminant	Maximum Concentration (mg/kg)	MCL Action Level (mg/kg)	MCL Cleanup Goal (mg/kg)	Point of Compliance
Soil	1047	Mineral Spirits 1,2 Dichloro-benzene 1,4 Dichloro-benzene Ethylbenzene Tetracholoro-ethene Toluene Xylenes	6200 8.6 3.4 0.69 0.033 0.033 13	Not applicable to soil	Not applicable to soil	Background levels
Ground water	*	Mineral Spirits 1,2-DCB 1,4-DCB 1,2-DCE Toluene Xylenes	0.96 0.019 0.007 0.013 0.0154 0.056	Not applicable 0.6 0.075 * 1.0 10.0	Not applicable, as groundwater contaminants have not been detected since 1995. Groundwater will be monitored through 1999. If contaminants are not detected, EPA will remove all monitoring wells.	Formal point of compliance, as defined in 40 CFR 264.95, was not established. If contaminants are found above their respective MCLs, additional corrective actions will be evaluated.

* Information not provided.

** Information regarding groundwater contaminants was reported at levels of 0.005 mg/l and above. Levels below 0.005 mg/l could not be determined and were reported as non-detected (ND). Samples were taken from several monitoring wells and the maximum concentrations found are reported. All contaminants were not present in all wells, therefore, the presence or absence of a contaminant varied among the wells that were sampled. No contaminants have been detected since October 1995.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

EPA conducted a formal public comment period on all corrective measures considered from June 17, 1997, to August 1, 1997. EPA's response to comments will be placed in the administrative record when it is completed.

NEXT STEPS

EPA is preparing a Final Decision Document which will reflect any other information obtained and EPA's responses to public comments.

KEY WORDS:
soil, groundwater; inhalation, ingestion, dermal contact; 1,1-DCB, 1,2-DCB, xylene, toluene, mineral spirits, ethylbenzene, tetrachloroethene; soil vapor extraction, excavation, monitored natural attenuation.

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